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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,768	11/07/2008	Rolf Cremerius	66969-0002	7846
84362	7590	01/08/2010		
GKN Driveline/TTG c/o Kristin L. Murphy 39533 Woodward Avenue, suite 140 Bloomfield Hills, MI 48304			EXAMINER DUNWOODY, AARON M	
			ART UNIT 3679	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,768	Applicant(s) CREMERIUS ET AL.	
	Examiner Aaron M. Dunwoody	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) 20-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19 is/are allowed.
- 6) ☒ Claim(s) 1, 13-15 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 13-19 and 24-26, drawn to a cage, classified in class 464, subclass 145.
- II. Claims 20-23, drawn to a process for producing a cage, classified in class 148, subclass 559.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process that does not form a closed base body.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;

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- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Newly submitted claims 20-23 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The claims provide a process for producing a cage.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-23 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 13-15 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 24 recite “the cage comprising *a quenched* and tempered steel, the cage fully hardened and tempered and the entire cage has a substantially uniform ductility over its cross section *without surface hardening*”. The original disclose recites:

With the configuration of the cage proposed here, the
Vickers test method can be carried out at any point in

the cross section of the cage and will result in
hardness ranges which substantially correspond to those
in the surface region or in the near-surface region of
the cage. In particular, the deviation is in a range of
less than 15%, preferably less than 10%, of the
hardness at the surface of the cage. The hardness range
of 500 to 650 HV given here is selected in particular
for a cage of this type to be used for a joint in the
automotive industry.

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According to the invention, it is now proposed that the cage be fully hardened. For this purpose, the cage is heated approximately to temperatures from 800°C to 1000°C and then quenched to a temperature of approx. 20°C to 60°C. The quenching takes place over a period of less than 10 seconds, in particular over a period from 0.5 to 4 seconds. The quenching rate must not be too high, since otherwise hardening cracks occur. The quenching must be as homogeneous as possible to ensure that the distortion is minimized. After the full hardening, the cage is martensitic all the way through and is accordingly extremely brittle and at risk of fracture. To avoid the formation of cracks as a result of internal stresses, the cages should be tempered as quickly as possible.

The original specification supports the cage being fully hardened *with surface hardening*. Therefore, the Examiner must conclude the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 13-15 and 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 24 recite "the cage comprising *a quenched* and tempered steel, the cage fully hardened and tempered and the entire cage has a substantially uniform ductility over its cross section *without surface hardening*". However, quenching is a form

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a surface hardening, it is not clear to the Examiner how the cage can be simultaneously hardened by quenching and without surface hardening.

Claim 13 recites, "the cage has a hardness in a range from 500 to 650 HV"; however, it is not clear to the Examiner how the cage can have a hardness range without surface hardness.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 6439072, Kajita et al.

In regards to claim 1, as best understood, Kajita et al disclose a cage (40) having a plurality of cutouts for receiving rolling bodies of a joint, wherein the cage comprises a quenched and tempered steel and the entire cage has a substantially uniform ductility over its cross section without surface hardening.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitations of quenched and tempered are given little patentable weight.

In regards to claim 13, as best understood, Kajita et al disclose the cage has a hardness in a range from 500 to 650 HV.

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In regards to claim 14, as best understood, Kajita et al disclose the cage comprises a steel with a carbon content in a range from 0.3% to 0.5%. 1

In regards to claim 15, as best understood, Kajita et al disclose the cage comprises a steel with at least boron as alloying element.

Claims 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 6270419, Jacob.

In regards to claim 24, as best understood, Jacob discloses a joint comprising an outer part (1), an inner part (3), a plurality of rolling bodies, and a cage (4), the cage comprising a quenched and tempered steel, the cage fully hardened and tempered and the entire cage has a substantially uniform ductility over its cross section without surface hardening.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitations of quenched and tempered are given little patentable weight.

In regards to claim 25, as best understood, Jacob discloses the joint provides an inclination angle for a shaft of greater than 20°.

In regards to claim 26, as best understood, Jacob discloses the joint is included in a vehicle.

Allowable Subject Matter

Claims 16-19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior fails to disclose a cage having a substantially uniform ductility over any cross section through the cage whereby the deviation of the hardness is less than 10% and the hardness is less than or equal to 650 HV.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Dunwoody whose telephone number is 571-272-7080. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron M Dunwoody/
Primary Examiner, Art Unit 3679

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